Claims

1. Method for the determining the position of a mobile object (MT) using at least one radio signal with a rotating transmission characteristic (1, 7, 9) of at least one reference station (BS), characterized in that
- the mobile object (MT) when detecting the radio signal checks for the presence of a reference event (t0, t4, ..., SFN0, SFN4, ...), with the relationship between the orientation of the transmission characteristic (1, 7, 9) and reference events (t0, t4, ..., SFN0, SFN4, ...) being known to the mobile object (MT) and defined data structures or data content (SFN0, SFN4, ...) of the radio signal being communicated as reference events, and
- the mobile object (MT) determines the orientation of the transmission characteristic (1, 7, 9) from the reference event (t0, t4, .., SFN0, SFN4, ...), and
determines a position relative to the reference station (BS) from the orientation of the transmission characteristic (1, 7, 9).

2. Method in accordance with Claim 1,
characterized in that
the mobile object (MT) additionally determines its relative distance (d) to the reference station (BS) from the signal parameters (P) of the radio signal.

3. Method in accordance with the preceding Claim,
characterized in that
physical transmission parameters of the radio signal measured by the mobile object are regarded as signal parameters (P).

4. Method in accordance with the preceding Claim,
characterized in that

data content of the radio signal containing information on physical transmission parameters of the radio signal is regarded the signal parameter.

5. Method in accordance with one of the preceding Claims, characterized in that
- the mobile object (MT) when detecting a second radio signal checks for the presence of a reference event (t0, t4, .., SFN0, SFN4, ...), determines the orientation of the transmission characteristic (1, 7, 9) of the second radio signal from the reference event (t0, t4, .., SFN0, SFN4, ...), and from the orientation of the transmission characteristic (1, 7, 9) of the second radio signal determines its position relative to a second reference station (BS2), and
- the mobile object (MT) determines its position relative to the reference stations (BS1, BS2) from the position relative to the first and second reference station (BS1, BS2).

6. Method in accordance with one of the preceding Claims, characterized in that
time-related reference events (t0, t4, ...) are communicated as reference events.

7. Method in accordance with one of the preceding Claims, characterized in that
defined data structures and data contents (SFN0, SFN4,….) of the radio signal are communicated as reference events.

8. Method in accordance with one of the preceding claims, characterized in that
identification data (SFN0, SFN4) are communicated as reference events, which identify the defined data segments of the radio signal.

9. Method in accordance with one of the preceding Claims characterized in that
numbers of data frames are communicated as identification data (SFN0, SFN4,…).

10. Method in accordance with one of preceding Claims, characterized in that
the transmission characteristic is generated by at least one rotating directional radiations (1,7) of the radio signal.

11. Method according to one of the preceding Claims, characterized in that
the transmission characteristic is generated by several rotating directional radiations (1, 7) of the radio signal.

12. Method according to one of the Claims 1 to 9 characterized in that
the transmission characteristic is generated by an omnidirectional radiation characteristic (8) of the radio signal in which at least one rotating directional attenuation (9) of the radio signal is generated.

13. Method in accordance with one of Claims 1 to 12, characterized in that
signaling data and/or communication data of a radio communication system is transmitted by the radio signal

14. User terminal (MT) of a radio communication system, comprising a device (RCDU) for the detection of a radio signal with rotating transmission characteristics (1, 7, 9), a device (RCU) for checking the presence of a reference event (t0, t4,…..SFN0,SFN), a device (ODU) for

determining the orientation of a transmission characteristic (1, 7, 9) of the radio signal from the reference event (t0, t4,....SFNO,SFN4), a device (BDU) for determining a position relative to a reference station (BS) from the orientation of the transmission characteristic (1, 7, 9).

15. User terminal (MT) according to Claim 14,
characterized in that,
a device (RDU) for determining the relative distance (d) to the reference station (BS) from signal parameters of the radio signal.